

Internet Information-Seeking Behaviour of Students at the University of Medical Sciences in Zahedan Based on Kuhlthau Model

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Abstract

The purpose of this study is to evaluate the information-seeking behaviour of students of General Medicine, odontology and post-graduate students of various fields of medicine who has admitted their theses in 2011-2012 based on Kuhlthau information-seeking behaviour. This study is an analytic survey. The studied group includes 210 theses admitted in the Research Committee of the University which were selected by census method. Crocker standardized questionnaire was used to assess the feelings and thoughts of the Kuhlthau six-stage information-seeking model using a five-choice Likert scale. The present study shows that the studied students pass the various stages of Kuhlthau model by slight differences in different stages of their theses. Their feelings and ideas are more or less similar to the learned pattern except that the fifth and sixth stages which are inconsistent with the model. The Chi-square test and exact Fisher test showed a significant relationship between male and female students in terms of feelings and ideas during different stages of Kuhlthau information seeking model.

Keywords: Kuhlthau model, information seeking behaviour, Thesis, University of Medical Sciences of Zahedan

Introduction

Human action is the product of his intentions whether clear or concealed. However, intentions are rooted in social norms and attitudes. In their respective roles, people act based on social norms and governing values. Psychologists believe that behaviour is a product of learning. Rubin (2004) states that information seeking behaviour refers to ways and efforts to meet the information needs. According to Rubin, information seeking behaviour refers to any action to identify the message related to the perceived need.

Davarpanah (2007) knows the information seeking behaviour as an objective search for required information which appears by understanding the need for information. As he believes, the objective of information seeking behaviour is to answer these questions:

What a person does to find his information needs? How he selects information sources and how he looks for them, how he access them? What factors influence his behaviour in the process?

To evaluate the information seeking behaviours, there are different patterns including Wilson, Ellis, etc. This study examines the information seeking behaviour of users by Kuhlthau (1993) model. He knows the process of information seeking consisting of three areas:

Emotional - feelings
Cognitive - Thoughts
Physics - actions

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According to Kuhlthau, the six steps of information seeking include initiation, selection, exploration, formulation, collection, presentation.

The main question is that what methods and behaviours can help users find information related to their needs among enormous mass of information available on the World Wide Web, rely on their validity, whereby eliminate their anxiety and concerns. In this study, the Kuhlthau model of information seeking was used. This model of information seeking behaviour is perhaps the only model which both focuses on two process applications to library skills and information seeking and development of transferable cognitive skills and takes advantage of user abilities to search information in the library and internet. There are different views about effectiveness and acceptability of Kuhlthau model compared to other models of information seeking behaviours discussed as follows. Miden (2003) knows the Kuhlthau model as one of the rarest models based on actual and official surveys, While other models are based on training and experience of providers. Bigdeli (2011) knows the Kuhlthau model as a unique model for its emotional considerations in the search process. According to Bigdeli, the user actively participates in the process of searching for information unlike many other models of information seeking. He believes that user knowledge grows in interaction with the information; more importantly, the cognitive processes involve in their information seeking behaviour. Furthermore, Kuhlthau model is a type of learning based on construction to provide media experts and librarians of academic centres with a proper framework for educational planning and information services. Huge and growing volume of information generated on the World Wide Web, Web logs, journals and electronic databases, etc. have made almost all users to use these information carriers.

Brand-Gruwel et al. (2009) described some patterns of problem solving. They concluded that students initially tend to focus on the problem and then gather information.

Volek (2007) suggests that help of librarians to users to access to relevant and reliable resources is still efficient in the information environments. As he claims, 83% of those who seek information by the help of librarians are satisfied with their results; 51% stated that the search results by the help of librarians and informants influence on their quality of life.

Information search process based on the Kuhlthau model

1. Initiation: The user is aware of the lack of knowledge and this causes uncertainty and worry.

2. Selection: At this point, the user identifies the overall problem and prepares to search.

3. Exploration: In this step, the user does not see his completely recovered information associated with his subject, and this leads to increased uncertainty and doubt.

4. Formulation: In this phase, one develops a concentrated approach. His confidence increases to the sought information and one gets ready to go to the next step.

5. Collection: in this step, one collects information relating to the subject by different sources; he becomes interested in the subject and assures the validity of information and its relevance to the subject.

6. Presentation: in this step, the user is responsible to complete the search and prepare the written documents by a new understanding, which allows him to describe and apply his learning.

Objectives

To take advantage of a structured model while searching and intervention of librarians and informants can make the search process more targeted. Application of Kuhlthau model considering the aforementioned advantages helps librarians and designers of information retrieving systems to make familiar with emotions and tendencies of users in six stages of the Kuhlthau model and to know the effective contributions in each stage while the skills can be trained for a successful search.

1. What are the information seeking behaviours compared with Kuhlthau model of information seeking?
2. In which step of searching process, do users need the librarian to intervene?
3. In the information seeking behaviour of users, there is a significant difference between males and females during the six-stage Kuhlthau model.

Literature Review

Swain (1996) evaluated the information seeking behavior of students using Kuhlthau model. He concluded that students tend to change the order of six-stage process and suggested a combination of steps of Kuhlthau model while retrieving information.

According to Shamo (2001), need for sufficient time during information retrieval and unfamiliarity with the principles and techniques of search are the factors for failures of students which cause anxiety and worries.

Derossis et al (2004) concluded that the best surgery intervention to improve the performance of medical students is to start their working activities and initial guidelines are followed by better results. He also found a significant difference between students of different academic fields in the thoughts of the various stages of information seeking process.

Burdic (1995) evaluated the effect of gender in the process of information seeking by Kuhlthau model. In this study, he found a significant difference in gender of students during different stages of the model.

Friel (1997) showed that first-year students using Kuhlthau model considerably experience components of this model. He claimed that users who experienced the model shifted from holism to particularism.

Shamo (2001) using Kuhlthau model concluded that the majority of users experienced the data collection step. The study also showed a significant difference in the information seeking behaviour of users between boys and girls during the six stages of the model.

Bigdeli, Farajpahlou and Ghazizade (2011) showed that users mostly experienced the first and fourth steps while searching via internet using the Kuhlthau model. In the third stage, they need the librarian.

Narmonji and Nokarizi (2009) showed a significant difference in the mean scores of internet anxiety and the average scores of internet anxiety, but no significant difference in mean scores of internet anxiety of the male and female students.

Kuhlthau model is one of the most important information-seeking behaviour model. This model, which is called information seeking behaviour, is primarily designed for users of traditional libraries in the academic environment (Narmonji & Nokarizi, 2009).

Materials and Methods

The methodology of the present study is analytic survey. The studied group included 210 theses admitted in the Research Committee of the Medical Sciences University of Zahedan in 2011-2012; the theses were selected by census method. Crocker standardized questionnaire was used to assess the feelings and thoughts corresponding to each phase of the feelings and thoughts of the users. To assess the emotions and thoughts related to every single step of Kuhlthau model, the questionnaire involved direct and indirect statements. Based on a five-choice Likert scale, users expressed their agreement or disagreement with the statements and scored them from 1 to 5 (Totally agree 1 and totally disagree 5).

Out of 210 distributed questionnaires, 192 questionnaires were completed and returned by follow-up. The information contained in these 192 questionnaires was used in data analysis using SPSS software.

Results

Table 1 lists the findings related to demographic data of the studied group.

Table 1: distribution of the studied group in terms of gender

Gender	Medical sciences university of Zahedan	%
Male	78	46.62
Female	114	59.38
Total	192	100

Table 2: distribution of field of study

Field of study	Distribution	%
General Medicine	106	55.21
General Dentistry	65	33.85
Master of Basic Sciences and Health	21	10.94
Total	192	100

The following results were obtained to find those stages of the Kuhlthau model that the studied students use during various steps of their thesis and to find whether their emotions and thoughts comply these stages.

Findings of the Table 3 show that the male respondents went through almost all six stages of the Kuhlthau model respectively; however, findings of the fifth and sixth stages were inconsistent to the Kuhlthau information-seeking model (see figure 1).

Table 3: Distribution of the average scores related to emotions and thoughts of the studied users

Stages	Mean scores	
	Emotions	Thoughts
First stage	3.26	2.81
Second stage	3.58	3.33
Third stage	3.32	3.12
Fourth stage	3.75	3.61
Fifth stage	3.89	3.19
Sixth stage	3.51	3.17

Based on Kuhlthau model of information-seeking behaviour, the user is initially expected to feel uncertainty. Users scored the confidence which they had in the beginning (3.26 out of 5 points). Half users felt confidence higher than the average (score 3) in the first stage. Based on this model, thoughts should be unclear at this stage; the score 2.81 suggests this. The users exhibited the ideas raised in the first stage of the Kuhlthau model.

In the second stage of this model of information-seeking, users feel optimism and comfort. The findings of this study show that the mean score of feeling (3.58) is higher than the average score (3 out of 5).

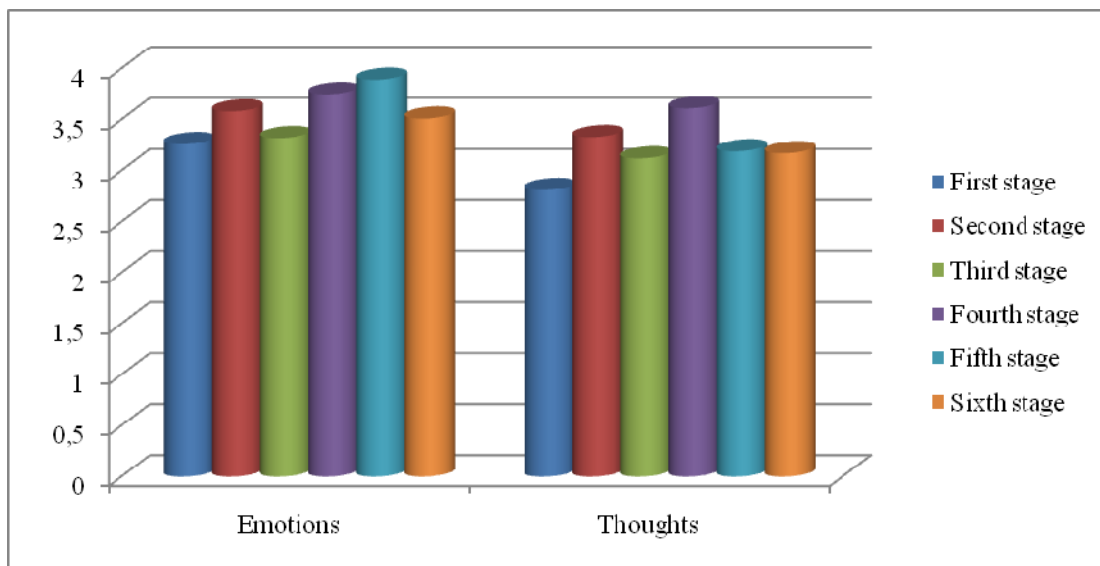


Figure 1: Mean scores related to emotions and thoughts of the studied users in different stages

In this stage, users felt higher optimism and comfort rather than in the first stage (3.58); however, the mean 3.33 suggests that thoughts are higher than the average holistic, which complies the Kuhlthau model.

The expected feelings of users in the third stage are confusion and suspicion. The mean scores of these feelings are higher than the average 3 out of 5 (3.32). Therefore, the expressed feelings comply the model. However, the mean scores of thoughts (3.12) show those thoughts became partially specific, which indicates that the findings comply the model.

The fourth stage involves confidence to the findings and path of the information seeking. As the results show, the mean feeling (3.75) considerably increased from the first stage (3.26), which suggests the present study complies the Kuhlthau model. In contrast, the mean thoughts (3.61) considerably increased from the previous stage (3.12), which suggests that the subject became more specific.

The fifth stage of the Kuhlthau model involves confidence to the information seeking process. In this study, the feeling of confidence increased to 3.89 out of 5. However, the mean scores suggest a notable decreases (3.19) to the previous stage (3.65), which does not comply the Kuhlthau model.

The sixth stage involves convenience; in this study, feelings of convenience decreased from the previous stage (3.89 to 3.51). The findings also found a notable difference in thoughts of the current and previous stages, which suggests that the findings do not comply the model.

The chi-square test and exact Fisher test showed a significant relationship between male and female students in feelings and thoughts during six stages of the Kuhlthau model. The calculated p (0.001) < 0.05 ; therefore, the relationship is significant and the hypothesis is supported.

Discussion and Conclusions

The present study showed that students pass the different stages of Kuhlthau model slightly differently. Their feelings and thoughts during various stages of the learned model are more or less similar, except for the fifth and sixth stages, which is inconsistent. The findings are inconsistent with Narmonji and Nokarizi (2009) in which the studied users complied all stages of the Kuhlthau model

in terms of feelings and thoughts. The present study is also inconsistent with Bigdelli et al (2011), in which participants were more familiar to the third and fourth stages of the six-stage Kuhlthau model.

One of these differences was related to the fifth stage, collection, in which users felt less confidence to their obtained information than in the previous stage; that is, users probably did not found their findings relevance to the subject. This may be due to changes in the subject during different stages of the search; according to Kuhlthau (1991), stages of the model are cyclic rather than linear.

The findings of the present study show that (Table 3) respondents felt confidence higher than the average in the first stage, while they should feel uncertainty and worry in this stage based on Kuhlthau model. These findings are consistent with Bulic (2006) in which the students participating in the first stage did not feel worry (Bulic 2006), Bigdelli et al (2011) and Ghazizadeh Dezfooli (2010).

To find the stages in which users feel the need for help of librarians in their search for information, the result showed that 65% of the students felt the need for help of the librarians in the first stage, which is consistent with Bigdelli et al (2011), Dezfooli (2010). This is also consistent with Volk (2007) and Brand-Gruwel et al. (2009) who know the initiation stage as the most important stage for intervention of librarians to help users retrieve information, but inconsistent with Bigdelli et al (2011) who knows the third stage as the most important stage for intervention of librarians.

In regard to the hypothesis that whether there is a significant difference between different genders in feelings and thoughts corresponding to different stages of the Kuhlthau model, the present study showed a significant relationship between feelings and thoughts of male and female users. The findings of the present research are consistent with Burdic (1995) and Shamo (2001), suggesting clear differences in gender of students in feelings and thoughts expressed during different stages of the Kuhlthau model, as well as Narmonji and Nokarizi (2009) and Bigdelli et al (2011) and Ghazizadeh Dezfooli (2012).

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